UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

March 6, 2020 LR-16J

VIA ELECTRONIC MAIL

Mr. Cary Mathias
Regional Waste Manager
ArcelorMittal USA
4020 Kinross Lakes Parkway
Richfield, OH 44286-9000

RE: Conceptual Site Model (CSM) and Human Health Risk Assessment (HHRA)
ArcelorMittal Indiana Harbor Long Carbon Property
EPA ID No. IND 005 159 199

Dear Mr. Mathias

The U.S. Environmental Protection Agency has reviewed the August 16, 2019 *Conceptual Site Model (CSM) and Human Health Risk Assessment (HHRA)* submitted to EPA by ArcelorMittal, USA for the Indiana Harbor Long Carbon Parcel. EPA's review focused on technical consistency and adherence to policy and regulations. Comments on the Report are enclosed. EPA requests that ArcelorMittal review the comments and provide a response along with a revised CSM and HHRA.

If you have any questions about this letter, please contact me at (312) 353-9229 or pursel.brandon@epa.gov.

Sincerely,

Digitally signed by BRANDON PURSEL
Date: 2020.03.06 15:08:06 -06'00'

Brandon Pursel
Project Manager, Corrective Action Section 3
Land, Chemicals & Redevelopment Division

Enclosure

cc: John Hill (ArcelorMittal)

EPA TECHNICAL REVIEW
INDIANA HARBOR LONG CARBON PARCEL
ARCELOR MITTAL INDIANA HARBOR EAST – EAST CHICAGO, INDIANA

ArcelorMittal submitted the *Conceptual Site Model (CSM) and Human Health Risk Assessment (HHRA)* dated August 16, 2019 for the Indiana Harbor Long Carbon parcel, which is part of the ArcelorMittal Indiana Harbor East facility located in East Chicago, Indiana. The purpose of the CSM and HHRA was to summarize current conditions of the property and the risks associated with contamination in soil and groundwater under current and anticipated future use.

GENERAL COMMENTS

Considering the scope and intent of the CSM and HHRA, EPA generally finds the conclusions are an accurate representation of current conditions at the Indiana Harbor Long Carbon parcel. There are some inaccuracies or other issues noted below that require revision. The conclusion that the IHLC property is safe for future use is largely predicated on the assumption that current uses, existing site features and exposure mitigation controls remain in place, should the property transfer from one owner to another. Most notably, ArcelorMittal's dig-permit program, slag fill and geotextile membrane must remain in place in order for most assumptions regarding exposure pathways to remain representative. The assumptions also include existing groundwater contamination remaining in place without active remediation occuring. Finally, it is expected that obligations required in the Consent Decree will remain under any future use scenario, including but not limited to any required groundwater monitoring and risk mitigation should it become necessary.

SPECIFIC COMMENTS

Section 2.3.1 On-Site Groundwater

1. The Report describes the potential for exposures to groundwater resulting from current and future activities at the IHLC. Any utility or construction activity under current conditions is covered by Institutional Controls directing the permitting and worker protection requirements for excavating into groundwater zones and for necessary de-watering activity. For future conditions which assumed that Institutional Controls would not be in place, construction workers performing excavation and redevelopment are assumed to have contact with groundwater.

   The Report states that the only exposure pathway to groundwater contaminants would be through dermal exposure, however EPA believes that assumption is not fully accurate. Construction workers could be exposed to volatile contaminants migrating from groundwater and emanating as vapors in trench areas during construction. The HHRA should evaluate the significance of this potential exposure pathway with an analysis of depth to groundwater in relation to the probable depth of excavation for subsurface maintenance and construction for redevelopment and modeling for migration of VOC contaminants into an open trench where groundwater is encountered.

Section 2.3.8 Indoor Air

2. The HHRA states that no indoor air measurements for VOC contaminants have been performed in the site buildings at IHLC during the RFI because no significant impacts from vapor intrusion would be expected. The Report concluded that the adverse impact of vapor intrusion into buildings would

be mitigated by dilution based on the location of groundwater samples and the size of buildings and the expected air exchange rates. EPA expressed verbal agreement during a recent site visit that a full-scale vapor intrusion is likely not necessary, however the Report does not present any objective measurements of the mitigating factors that would make it useful as a standalone document.

For the purpose of supporting the conclusions on the vapor intrusion pathway and for addressing future site use, the HHRA should include multiple lines of evidence supporting this conclusion. Chiefly, The HHRA should include specific criteria outlined in the *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air* (EPA, 2015) that supports the conclusion that the vapor intrusion pathway can be discounted at the IHLC buildings. The discussion should include, at minimum, a discussion of air exchange rates and those rates being maintained across the building.

Section 2.3.9 Outdoor Air

3. The Report correctly states that the potential for exposure to significantly contaminated outdoor air (ambient air) depends on the presence of contaminated soils or shallow groundwater in areas where current or future receptors could be present. The Report states that no direct measurements of site contaminants in air were made for the RFI, but current soil and groundwater data show contaminant levels that are far too low to be associated with any adverse outdoor air inhalation impact. Quantitative evaluations are preferred where possible, and in this case no specific contaminant levels in shallow soil or groundwater are presented to support that conclusion. The HHRA should include a component for evaluating the inhalation pathway for transport of VOCs from soil to ambient air. The HHRA should also clarify which exposure pathways are incorporated into the soil screening levels applied for the RFI and HHRA.

Section 4.1 Potential Exposure Pathways

4. For the table on Page 13, the Report should provide an explanation for why "vapor inhalation" should not be included in the groundwater Exposure Pathways for the Construction Worker.

Section 6.3.1 Hazard Identification

5. The Report states that analytical detection limits for thallium and arsenic are higher than the industrial RSLs based on the selected cancer risk and noncancer hazard targets. But both constituents were retained as COPCs and the analytical detection limits were included in the derivation of the EPCs. The Report should explain how detection limits were used to derive EPC values for those two constituents and other constituents where applicable.

Table 5 and Appendix D-3

6. Table 5 shows a comparison of maximum groundwater COC concentrations to Construction Worker Screening Levels which were apparently derived for Appendix D-3. Appendix D-3 appears to contain RSLs for the Recreator exposure pathway rather than RSLs for Construction Workers. The Report should be revised or updated as necessary.